

Section 4: Supertypes and Subtypes

Objectives

- Define and give an example of a subtype
- Define and give an example of a supertype
- State the rules relating to entities and subtypes; give examples of each
- Apply the rules of supertype and subtype by evaluating the accuracy of ER diagrams that represent them
- Apply the rules of supertype and subtype and include them in a diagram when appropriate

Vocabulary

Directions: Identify the vocabulary word for each definition below.

1. _____ Treating all parts or aspects without omission.
2. _____ A means of classifying an entity that has subtypes.
3. _____ Something an entity may be split into based on common attributes and/or relationships.
4. _____ A relationship that presents choices that are unable to be true at the same time.

Try It / Solve It

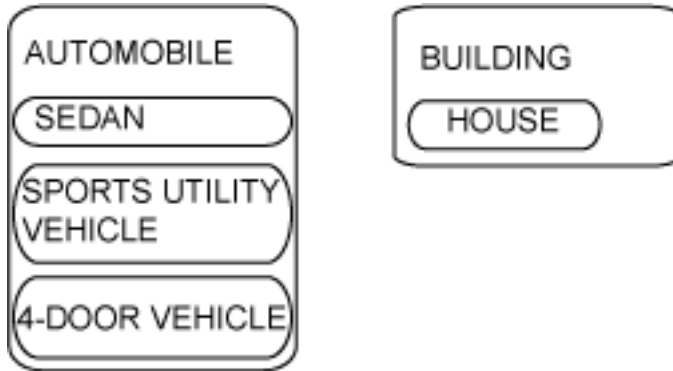
1. Identify the supertype and subtype of the entity listed below.

DISABILITY
Visual Impairment
Hearing Impairment
Amputation
Paralysis

2. For each rule stated indicate if the rule is applicable to supertypes or subtypes.

_____ They have several attributes in common
_____ They inherit all attributes and relationships of the entity
_____ Never exists alone
_____ Create one when a group of instances of an entity have special properties

3. Name three things you consider when considering supertypes and subtypes.
4. Find the incorrect subtypes in the illustration. Explain why you think the subtype is incorrect. Adjust the model to improve it.



5. Read the following scenario and construct an ERD that contains at least two subtypes of the entity PRODUCT. Show clearly which attributes belong to the entity supertype, and which belong to one of the subtypes. Identify a UID for the entity.

“Our shops sell several kinds of women’s’ clothing, including dresses, skirts and blouses. Of course each product has a name, a description and a price. Oh, and sizes too: all products have a waist size. Dresses and skirts have a hem length but blouses don’t. Dresses and blouses have a chest size; skirts don’t.”